

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for increasing the throughput of network communications performed by a network access provider server, the method comprising:

the network access provider server establishing a connection with a client

computer

the network access provider server receiving a request for a requested object from a requester, wherein the requester is a web browser on the client computer

the network access provider server forwarding the request to a server

the network access provider server receiving a response from the server

the network access provider server reviewing the response to determine whether the response includes a native expiration

when the response does not include the native expiration

the network access provider server computing a computed expiration for the response

the network access provider server inserting the computed expiration into the response creating an amended response

the network access provider server forwarding the amended response to the requester, wherein the amended response includes the requested object

storing the amended response

the network access provider server providing the amended response to other requesters at other client computers that request the requested object, the providing achieved without additional communication with the server.

2. (Original) The method of claim 1 wherein the server comprises an origin server.

3. (Cancelled)
4. (Currently amended) The method of claim 1 wherein
when the response includes the native expiration, the network access provider server forwarding the response to the requester.
5. (Original) The method of claim 1 wherein the computed expiration is based on at least one of a response content type and a response resource identifier.
6. (Original) The method of claim 1 wherein the computed expiration is based on a time-to-live.
7. (Currently amended) The method of claim 1 further comprising
the network access provider server evaluating whether a content type of the response is appropriate
the network access provider server performing the reviewing only when the content type of the response is appropriate.
8. (Currently amended) The method of claim 7 wherein the network access provider server evaluating whether a content type of the response is appropriate comprises the network access provider server checking to determine whether the content type is in an appropriate type list.
9. (Original) The method of claim 8 wherein the appropriate type list comprises at least one of graphic, JavaScript, Cascading Style Sheet, portable document format (PDF), executable program, audio, video, and multimedia.
10. (Currently amended) The method of claim 1 wherein the network access provider server receiving a request comprises the network access provider server storing request information as request history data.

11. (Original) The method of claim 10 wherein the request information includes a request resource identifier, a request content type, and a modification query when the modification query is present.

12. (Currently amended) The method of claim 10 wherein the network access provider server computing the computed expiration comprises:

the network access provider server evaluating whether the response includes a modification history

when the response includes the modification history,

the network access provider server computing a time-to-live for the response based on an age factor, a current time and a value of the modification history

the network access provider server computing the computed expiration based on the current time and the time-to-live

when the response does not include the modification history,

the network access provider server retrieving a modification query value from the request history data based on a response type and a response location

when the modification query value is retrieved,

the network access provider server computing the time-to-live for the response based on an age factor, a current time and the modification query value,

the network access provider server computing the computed expiration based on the current time and the time-to-live

when the retrieving the modification query value is not successful, the network access provider server forwarding the response to the requester.

13. (Currently amended) The method of claim 12 further comprising:

when the time-to-live is greater than a defined maximum, the network access provider server setting the time-to-live to be the defined maximum

when the time-to-live is less than a defined minimum, forwarding the response to the requester.

14. (Original) The method of claim 13 wherein the request is a hyper-text transfer protocol (HTTP) get, the modification query value is an HTTP if-modified-since value, and the modification history value is an HTTP last-modified value.

15. (Currently amended) A method for increasing the throughput of network communications performed by a the network access provider server, the method comprising:

the network access provider server establishing a connection with a client computer

the network access provider server receiving a request for a requested object from a requester, wherein the requester is a web browser on the client computer

the network access provider server forwarding the request to a server

the network access provider server receiving a response from the server

the network access provider server evaluating whether the response has a status code that is actionable

when the status code is actionable,

the network access provider server reviewing the response to determine whether the response includes a native expiration

when the response does not include the native expiration

the network access provider server calculating a calculated expiration for the response

the network access provider server inserting the calculated expiration into the response creating an amended response

the network access provider server forwarding the amended response to the requester, wherein the amended response includes the requested object

the network access provider server storing the amended response

the network access provider server providing the amended response to other requesters on other client computers that request the requested object, the providing achieved without additional communication with the server
when the response includes the native expiration, the network access provider server forwarding the response to the requester
when the status code is not actionable, the network access provider server forwarding the response to the requester.

16. (Currently amended) The method of claim 15 wherein the network access provider server evaluating whether the response has a status code that is actionable comprises the network access provider server checking to determine whether the response has a hyper-text transfer protocol (HTTP) status code of “OK” or “Not Modified”.

17. (Cancelled)

18. (Currently amended) A method for increasing the throughput of network communications performed by a network access provider server, the method comprising:

the network access provider server establishing a connection with a client computer
the network access provider server receiving a request for a requested object from a requester, wherein the requester is a web browser on the client computer
the network access provider server forwarding the request to a server
the network access provider server receiving a response from the server
the network access provider server reviewing the response to determine whether the response includes a native expiration
when the response does not include the native expiration
the network access provider server evaluating whether a content type of the response is appropriate
when the content type of the response is appropriate

the network access provider server computing a calculated expiration for the response

the network access provider server inserting the calculated expiration into the response creating an amended response

the network access provider server forwarding the amended response to the requester, wherein the amended response includes the requested object

the network access provider server storing the amended response

the network access provider server providing the amended response to other requesters on other client computers that request the requested object, the providing achieved without additional communication with the server when the content type of the response is not appropriate,

the network access provider server forwarding the response to the requester

when the response includes the native expiration,

the network access provider server forwarding the response to the requester.

19. (Currently amended) The method of claim 18 wherein the network access provider server evaluating whether a content type of the response is appropriate comprises the network access provider server checking to determine whether the content type is a graphic image.

20. (Currently amended) The method of claim 19 wherein the network access provider server evaluating whether a content type of the response is appropriate comprises the network access provider server checking to determine whether the content type is one of a Graphics Interchange Format (GIF) file or Joint Photographic Experts Group (JPEG) file.

21. (Currently amended) The method of claim 18 wherein the network access provider server evaluating whether a content type of the response is appropriate comprises the network access provider server checking to determine whether the content type is in an appropriate type list.

- 22.** (Original) The method of claim 21 wherein the appropriate type list comprises at least one of graphic, JavaScript, Cascading Style Sheet, portable document format (PDF), audio, video, and multimedia.
- 23.** (Original) The method of claim 18 wherein the calculated expiration is based on at least one of a response content type and a response resource identifier.
- 24.** (Original) The method of claim 18 wherein the calculated expiration is based on a time-to-live.
- 25.** (Cancelled)
- 26.** (Currently amended) The method of claim 18 wherein the network access provider server receiving a request comprises the network access provider server storing request information as request history data.
- 27.** (Original) The method of claim 26 wherein the request information includes a request resource identifier, a request content type, and a modification query when the modification query is present.
- 28.** (Currently amended) The method of claim 26 wherein the network access provider server calculating the calculated expiration comprises:

the network access provider server evaluating whether the response includes a modification history

when the response includes the modification history,

the network access provider server computing a time-to-live for the response based on an age factor, a current time and a value of the modification history

the network access provider server calculating the calculated expiration based on the current time and the time-to-live

when the response does not include the modification history,

the network access provider server retrieving a modification query value from the request history data based on a response type and a response location when the modification query value is retrieved,

the network access provider server computing the time-to-live for the response based on an age factor, a current time and the modification query value,

the network access provider server calculating the calculated expiration based on the current time and the time-to-live when the retrieving the modification query value is not successful, the network access provider server forwarding the response to the requester.

29. (Currently amended) The method of claim 28 further comprising:

when the time-to-live is greater than a defined maximum, the network access provider server setting the time-to-live to be the defined maximum

when the time-to-live is less than a defined minimum, the network access provider server forwarding the response to the requester.

30. (Original) The method of claim 28 wherein the request is a hyper-text transfer protocol (HTTP) get, the modification query value is an HTTP if-modified-since value, and the modification history value is an HTTP last-modified value.

31. (Currently amended) A storage medium having instructions stored thereon which when executed by a processor cause a network access provider server ~~the processor~~ to perform operations comprising:

the network access provider server establishing a connection with a client computer

the network access provider server receiving a request for a requested object from a requester, wherein the requester is a web browser on the client computer

the network access provider server forwarding the request to a server

the network access provider server receiving a response from the server
the network access provider server reviewing the response to determine whether the response includes a native expiration
when the response does not include the native expiration
the network access provider server computing a computed expiration for the response
the network access provider server inserting the computed expiration into the response creating an amended response
the network access provider server forwarding the amended response to the requester, wherein the amended response includes the requested object
the network access provider server storing the amended response
the network access provider server providing the amended response to other requesters on other client computers that request the requested object, the providing achieved without additional communication with the server.

32. (Original) The storage medium of claim 31 wherein the server comprises an origin server.

33. (Currently amended) The storage medium of claim 31 having further instructions stored thereon which when executed by the processor cause the network access provider server processor to perform further operations comprising:

the network access provider server evaluating whether a content type of the response is appropriate
the network access provider server performing the reviewing only when the content type of the response is appropriate.

34. (Currently amended) The storage medium of claim 33 wherein the network access provider server evaluating whether a content type of the response is appropriate comprises the network access provider server checking to determine whether the content type is in an appropriate type list.

35. (Original) The storage medium of claim 34 wherein the appropriate type list comprises at least one of graphic, JavaScript, Cascading Style Sheet, portable document format (PDF), audio, video, and multimedia.

36. (Cancelled)

37. (Currently amended) The storage medium of claim 31 wherein
when the response includes the native expiration, the network access provider
server forwarding the response to the requester.

38. (Original) The storage medium of claim 31 wherein the computed expiration is based on at least one of a response content type and a response resource identifier.

39. (Original) The storage medium of claim 31 wherein the computed expiration is based on a time-to-live.

40. (Currently amended) The storage medium of claim 31 wherein the network access provider
server receiving a request comprises the network access provider server storing request information as request history data.

41. (Original) The storage medium of claim 40 wherein the request information includes a request resource identifier, a request content type, and a modification query when the modification query is present.

42. (Currently amended) The storage medium of claim 40 wherein the network access provider
server computing the computed expiration comprises:

the network access provider server evaluating whether the response includes a modification history

when the response includes the modification history,

the network access provider server computing a time-to-live for the response based on an age factor, a current time and a value of the modification history

the network access provider server computing the computed expiration based on the current time and the time-to-live
when the response does not include the modification history,
the network access provider server retrieving a modification query value from the request history data based on a response type and a response location
when the modification query value is retrieved,
the network access provider server computing the time-to-live for the response based on an age factor, a current time and the modification query value,
the network access provider server computing the computed expiration based on the current time and the time-to-live
when the retrieving the modification query value is not successful,
the network access provider server forwarding the response to the requester.

43. (Currently amended) The storage medium of claim 42 having further instructions stored thereon which when executed by cause the processor cause the network access provider server to perform operations further comprising:

when the time-to-live is greater than a defined maximum, the network access provider server setting the time-to-live to be the defined maximum
when the time-to-live is less than a defined minimum, the network access provider server forwarding the response to the requester.

44. (Original) The storage medium of claim 43 wherein the request is a hyper-text transfer protocol (HTTP) get, the modification query value is an HTTP if-modified-since value, and the modification history value is an HTTP last-modified value.

45. (Currently amended) A network access provider server ~~computing device~~ configured to accelerate network traffic delivery, the network access provider server ~~computing device~~ comprising:

a processor

a memory coupled with the processor

a storage medium having instructions stored thereon which when executed cause the ~~computing device~~ network access provider server to perform actions comprising

the network access provider server establishing a connection with a client computer

receiving a request for a requested object from a requester, wherein the requester is a web browser on the client computer

forwarding the request to a server

receiving a response from the server

reviewing the response to determine whether the response includes a native expiration

when the response does not include the native expiration

computing a computed expiration for the response

inserting the computed expiration into the response creating an amended response

forwarding the amended response to the requester, wherein the amended response includes the requested object

storing the amended response

providing the amended response to other requesters on other client computers that request the requested object, the providing achieved without additional communication with the server.

46. (Currently amended) The network access provider server ~~computing device~~ of claim 45 wherein the server comprises an origin server.

47. (Currently amended) The network access provider server ~~computing device~~ of claim 45 having further instructions which when executed cause the processor to perform further operations comprising:

evaluating whether a content type of the response is appropriate
performing the reviewing only when the content type of the response is appropriate.

48. (Currently amended) The network access provider server ~~computing device~~ of claim 47 wherein the evaluating whether a content type of the response is appropriate comprises checking to determine whether the content type is in an appropriate type list.

49. (Currently amended) The network access provider server ~~computing device~~ of claim 48 wherein the appropriate type list comprises at least one of graphic, JavaScript, Cascading Style Sheet, portable document format (PDF), audio, video, and multimedia.

50. (Cancelled)

51. (Currently amended) The network access provider server ~~computing device~~ of claim 45 wherein

when the response includes the native expiration, forwarding the response to the requester.

52. (Currently amended) The network access provider server ~~computing device~~ of claim 45 wherein the computed expiration is based on at least one of a response content type and a response resource identifier.

53. (Currently amended) The network access provider server ~~computing device~~ of claim 45 wherein the computed expiration is based on a time-to-live.

54. (Currently amended) The network access provider server ~~computing device~~ of claim 45 wherein the receiving a request comprises storing request information as request history data.

55. (Currently amended) The network access provider server ~~computing device~~ of claim 54 wherein the request information includes a request resource identifier, a request content type, and a modification query when the modification query is present.

56. (Currently amended) The network access provider server ~~computing device~~ of claim 54 wherein the computing the computed expiration comprises:

- evaluating whether the response includes a modification history
- when the response includes the modification history,
 - computing a time-to-live for the response based on an age factor, a current time and a value of the modification history
 - computing the computed expiration based on the current time and the time-to-live
- when the response does not include the modification history,
 - retrieving a modification query value from the request history data based on a response type and a response location
 - when the modification query value is retrieved,
 - computing the time-to-live for the response based on an age factor, a current time and the modification query value,
 - computing the computed expiration based on the current time and the time-to-live
 - when the retrieving the modification query value is not successful,
 - forwarding the response to the requester.

57. (Currently amended) The network access provider server ~~computing device~~ of claim 56 wherein the storage medium has further instructions stored thereon which when executed cause the computing device to perform further operations comprising:

- when the time-to-live is greater than a defined maximum, setting the time-to-live to be the defined maximum

when the time-to-live is less than a defined minimum, forwarding the response to the requester.

58. (Currently amended) The network access provider server ~~computing device~~ of claim 57 wherein the request is a hyper-text transfer protocol (HTTP) get, the modification query value is an HTTP if-modified-since value, and the modification history value is an HTTP last-modified value.